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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/299,965	04/26/1999	Clayton A. George	54570US 002	3907
32692	7590	04/27/2004	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			AFTERGUT, JEFF H	
PO BOX 33427			ART UNIT	PAPER NUMBER
ST. PAUL, MN 55133-3427			1733	

DATE MAILED: 04/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/299,965

**Applicant(s)**

GEORGE ET AL.

**Examiner**

Jeff H. Aftergut

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 7-14 and 16-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-14 and 16-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 7, 9, 10, 19, 20, 22, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Frauenglass et al.

Frauenglass et al suggested that it was known at the time the invention was made to mix a thermoplastic resin and a thermosetting resin and utilize the same as an adhesive for joining mechanical fasteners permanently. More specifically, the reference taught that a combination of the mixture of a thermoplastic resin including polyester thermoplastic resins and an anaerobic thermosetting resin which was a methacrylate resin would have been mixed together and would have been applied upon threaded components of fasteners in order to permanently secure the components together, see column 1, lines 63-column 2, line 2, column 2, lines 14-35, column 3, lines 66-75, column 5, lines 43-45, column 6, lines 49-70, column 6, line 71-column 7, line 25, and column 8, lines 13-19. The reference made it clear that the composition was storage stable for 24 hours and that the curing of the resin did not take place until one removed the oxygen from the environment in which the adhesive material was exposed. It should be noted that the reference suggested that the reference suggested that the adhesive would have been useful for nuts, bolts, screws or other threaded mechanical fasteners.

Regarding the limitation that the "fastener at least partially fabricated from a curable material with a fastening surface", the applicant is advised that the article of Frauenglass et al

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suggested that one skilled in the art would have coated the threads of the fastener with the disclosed composition and preapplied the same. Such preapplicaiton would have provided a surface coating on the parts, see column 6, lines 59-70, for example. Clearly, the fastener products of Frauenglass included a surface coating of the specified curable polymer which was preapplied to the threads of the fastener and as such the fastener was fabricated from (at least partially) a curable material disposed on the threads of the fastener. The claims at hand do not exclude metal fasteners which include coatings on the surface therein to provide a whole fastener assembly which is at least partially fabricated from curable material.

Regarding claims 2 and 3, the reference suggested that the curable material was storage stable for a long period of time and one skilled in the art would have expected that the material would have been stable for a month. It is not until one removes the air that the resin cures. Regarding claim 7, the reference suggested the specific materials recited for use as the thermosetting component. Regarding claims 9 and 10, note that the thermoplastic materials included in the composition included polyester. Regarding claim 19, the reference clearly suggested the cured assembly after installation. Regarding claim 20, it is not seen how radiation curing the adhesive would have resulted in a materially different end product and therefore it is deemed that the reference anticipates the claim (i.e. how is the article altered by reciting that the adhesive was cured with UV radiation). Regarding claim 22, the reference suggested the specified method of attaching the fastener together followed by curing the resin. Regarding claim 26, note the discussion above regarding the fastener including the coating thereon as providing a fastener which is at least partially fabricated from curable material.

***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-3, 7, 9, 10, 13, 16, and 18-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen in view of Frauenglass et al or alternatively Frauenglass et al in view of Cohen for the same reasons as presented in paper no. 17, paragraph 4.

As expressed in paper no. 17, the reference to Frauenglass suggested that those skilled in the art would have preapplied the adhesive upon the fastener component and likewise would have dried the same in order to provide a coating upon the surface of the fastener. Clearly, such would have provided a surface of the fastener with a curable material thereon. Additionally, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a different configuration of a fastener in Frauenglass et al such as the known fasteners Cohen.

Applicant is referred to paragraph 2 above for a discussion of how the fastener is "at least partially fabricated from the curable material". Regarding claims 2 and 3, the reference suggested that the curable material was storage stable for a long period of time and one skilled in the art would have expected that the material would have been stable for a month. It is not until one removes the air that the resin cures. Regarding claim 7, the reference suggested the specific materials recited for use as the thermosetting component. Regarding claims 9 and 10, note that the thermoplastic materials included in the composition included polyester. Regarding claim 13, note that Cohen suggested that one would have provided a plurality of fasteners on a backing in the manufacture of a hook and loop type fastener. Regarding claim 16, note that the reference to

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Cohen suggested a hook and loop fastener. Regarding claim 18, it is not seen how the technique used to form the fastener of Cohen would have materially effected the finished product (i.e. how do these process limitations further limit the claimed article of manufacture). Regarding claim 19, the reference clearly suggested the cured assembly after installation. Regarding claim 20, it is not seen how radiation curing the adhesive would have resulted in a materially different end product and therefore it is deemed that the reference anticipates the claim (i.e. how is the article altered by reciting that the adhesive was cured with UV radiation). Regarding claim 21, note that the reference employed the same kind of polymer for the adhesive and one skilled in the art would have therefore expected that the finished assembly would have had the specified strength. Regarding claim 22, the reference suggested the specified method of attaching the fastener together followed by curing the resin. Regarding claim 23 –25, note that Cohen suggested this arrangement for the fastener wherein the fastener was associated with a substrate. Regarding claim 26, note the discussion above regarding the fastener including the coating thereon as providing a fastener which is at least partially fabricated from curable material. Regarding claim 27, the reference to Cohen suggested coating both fastening surfaces.

5. Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 4 further taken with any one of Alexander et al, Bachman et al, or Pearce, Jr. for the same reasons as expressed in paper no. 17, paragraph 5.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 4 further taken with either the Modern Plastics Encyclopedia 1983-84 or the admitted prior art for the same reasons as expressed in paper no. 17, paragraph 6.

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7. Claims 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 4 further taken with Melbye et al for the same reasons as expressed in paper no. 17, paragraph 7.

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 4 further taken with Lu et al or Appeldorn for the same reasons as expressed in paper no. 17, paragraph 8.

9. Claims 20 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 5 further taken with Crivello et al for the same reasons as expressed in paragraph 9 of paper no 17.

***Response to Arguments***

10. Applicant's arguments filed March 22, 2004 have been fully considered but they are not persuasive.

The applicant argues that the fastener was manufactured from the specified curable resin material. However, the claims at hand recite that the "curable mechanical fastener" comprises a "fastening at least partially fabricated from a curable material with a fastening surface". The applicant is advised that as such the arguments are not commensurate in scope with the claimed subject matter. The claims recite that only a portion of the fastener need be formed from a curable material. The claim does not state that the fastener itself was formed from only curable material as argued. While it is agreed that Frauenglass taught that the fastener was provided with a coating of the blend of the thermoplastic adhesive and the curable resin, the reference suggested that this coating was preapplied upon the fastener and the solvent removed by heating to provide a coating of the material upon the surface of the fastener. As such the reference to

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Frauenglass suggested that those skilled in the art would have provided a mechanical fastener with an adhesive coating preapplied upon the surface of the fastener. As such, Frauenglass clearly taught a mechanical fastener which was at least partially fabricated from a curable material on the surface of the fastener.

The applicant is further advised that the fastener of their own invention need not be formed completely of the curable material but rather need only have an external layer of the curable material disposed thereon as discussed in the specification at page 11, line 8-24. Clearly, reading the claims in light of the specification and with a further examination of Frauenglass one skilled in the art would have understood that the preapplied coatings of the binder upon the mechanical fasteners would have yielded the claimed product. The applicant's arguments regarding the reference to Frauenglass have not been found to be persuasive.

It should additionally be noted that the reference to Cohen also did provide a coating of the adhesive upon the mechanical fastener. The applicant is advised that the claims at hand do not distinguish from the same in that they only require that one provide a product having a surface layer of the curable material. The reference to Cohen, by virtue of the coating, provided a mechanical fastener with a curable surface layer thereon which was on the surface of the fastener. It should be noted that the mechanical fastener of the claims has a "fastener" which is at least partially fabricated from curable material and not a fastener which only formed from the curable material. As such the claims at hand do not exclude the use of a coating of a material on the surface of the fastener for providing a mechanical fastener with a fastening surface having a curable material at least partially thereon.



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The article and the method of using the article are suggested by the combination of references to either Frauenglass alone or Cohen and Frauenglass. The claims at hand are not commensurate in scope with the arguments and one skilled in the art would have been motivated to employ the adhesive composition of Frauenglass in Cohen for the reasons previously presented. The applicant did not expressly address the other references applied other than to state that they did not cure the deficiencies of the other references. However, as expressed above no such deficiencies exist. As such the additional references are applied again for the same reasons as previously presented.

#### ***Conclusion***

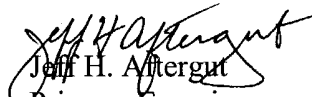
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Great Britain Patent 1,255,413 suggested it was known to join plastic pipes with threads thereon with a thermosetting adhesive material.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jeff H. Aftergut  
Primary Examiner  
Art Unit 1733

JHA  
April 23, 2004